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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/664,085 | 09/18/2000 | John E. Bennett | Q858-E | 3902 |

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[REDACTED] EXAMINER

HUTTON JR, WILLIAM D

[REDACTED] ART UNIT

[REDACTED] PAPER NUMBER

3676

DATE MAILED: 01/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|------------------------|---------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/664,085 | BENNETT ET AL. |
| | Examiner | Art Unit |
| | Doug Hutton | 3676 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 October 2002.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 1-17 and 22-25 is/are allowed.
- 6) Claim(s) 18-20 and 26-31 is/are rejected.
- 7) Claim(s) 21 and 32 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 September 2000 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____ .
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ . |

Applicant's Response

In Paper Nos. 6 and 7, Applicant amended the specification, amended Claims 1, 4, 16-18, 21, 22 and 26, added new Claims 27-32, and argued against all objections and rejections previously set forth in Paper No. 2.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission), in view of Johnson et al., U.S. Patent No. 6,203,511, and further in view of Davis et al., U.S. Patent No. 5,460,599.

Claim 18:

Admission discloses a hinge for an orthopedic splint comprising:

- an upper plate and a lower plate connected for pivotal movement (see Applicant's Specification – Page 1, Lines 16-19); and
- a detent element supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement in a selected angular relationship relative to each other (see Applicant's Specification – Page 1, Lines 23-30).

Additionally, it is well-known in the art to include a spring (74, Figure 4) normally urging a detent (70) into engagement with plates, as demonstrated by Kilbey, U.S. Patent No. 5,814,000.

Admission fails to disclose a pivotal movement comprising an arc including a zero angle position at an intermediate location along said arc, such that said plates may be moved through substantial angular ranges on either side of said zero angle position.

Johnson et al. teaches a hinge for an orthopedic splint (see Figure 1) comprising an arc (54, Figure 4) including a zero angle position (see Figure 4) at an intermediate location along said arc, such that said plates may be moved through substantial angular ranges on either side of said zero angle position (plates 16, 18 each have a 120° slot; slots 54 can be arranged to completely overlap each other, with 60° on one side of the zero angle position and 60° on the other side of the zero angle position – see Column 5, Line 66 through Column 6, Line 20), for the purpose of adjusting the amount of pivotal movement between upper and lower plates.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art to include a pivotal movement comprising an arc including a zero angle position at an intermediate location along said arc, such that said plates may be moved through substantial angular ranges on either side of said zero angle position for the purpose of adjusting the amount of pivotal movement between upper and lower plates, as taught by Johnson et al.

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Admission, in view of Johnson et al., fails to disclose a tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand.

Davis et al. teaches a tamper deterrent means (80, Figure 14) arranged for protecting said detent element against displacement out of said engagement by an unaided hand (Column 5, Lines 37-42). Davis et al. does not explicitly state why the tamper deterrent means has this arrangement; however, it appears that the tamper deterrent means protects the detent element against displacement in order to prevent any unwanted adjustment of the hinge.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art, in view of Johnson et al., to include a tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand, for the purpose of preventing any unwanted adjustment of the hinge, as taught by Davis et al.

Claim 19:

Admission fails to disclose a zero angle position that is centered along an arc of pivotal movement such that the plates may be pivoted through equal angular ranges on either side of the zero angle position.

Johnson et al. teaches a hinge for an orthopedic splint (see Figure 1) comprising an arc (54, Figure 4) including a zero angle position (see Figure 4) that is centered

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along an arc of pivotal movement such that the plates may be pivoted through equal angular ranges on either side of the zero angle position (plates 16, 18 each have a 120° slot; slots 54 can be arranged to completely overlap each other, with 60° on one side of the zero angle position and 60° on the other side of the zero angle position – see Column 5, Line 66 through Column 6, Line 20), for the purpose of adjusting the position and the amount of pivotal movement between upper and lower plates.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art to include a zero angle position that is centered along an arc of pivotal movement such that the plates may be pivoted through equal angular ranges on either side of the zero angle position for the purpose of adjusting the position and the amount of pivotal movement between upper and lower plates, as taught by Johnson et al.

Claim 20:

Admission fails to disclose plates that are aligned in a straight line in a zero angle position.

Johnson et al. teaches plates that are aligned in a straight line in a zero angle position (plates 16, 18 each have a 120° slot; slots 54 can be arranged to completely overlap each other, with 60° on one side of the zero angle position and 60° on the other side of the zero angle position – see Column 5, Line 66 through Column 6, Line 20), for the purpose of adjusting the position of the pivotal movement between upper and lower plates.

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Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art to include plates that are aligned in a straight line in a zero angle position for the purpose of adjusting the position of the pivotal movement between upper and lower plates, as taught by Johnson et al.

Claims 26-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission), in view of Bloedau, U.S. Patent No. 5,938,629, and further in view of Davis et al.

Claim 26:

Admission discloses a hinge for an orthopedic splint comprising:

- an upper plate and a lower plate connected for pivotal movement (see Applicant's Specification – Page 1, Lines 16-19);
- a detent element supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement in a selected angular relationship relative to each other (see Applicant's Specification – Page 1, Lines 23-30);
- a pair of wheels turning concentrically with said pivotal movement of the plates, each of said wheels having a wheel edge engageable by said detent for locking the wheel relative to said upper plate (see Applicant's Specification – Page 2, Lines 1-9); and

- a stop on each of said wheels operative for limiting pivotal movement of said lower plate relative to said upper plate in one direction of movement (see Applicant's Specification – Page 2, Lines 1-9).

Admission fails to disclose a spring normally urging said detent into said engagement with said plates. However, it is well-known in the art to include a spring (74, Figure 4) normally urging a detent (70) into engagement with plates, as demonstrated by Kilbey, U.S. Patent No. 5,814,000.

Admission fails to disclose a pin on the lower plate that is disposed for movement between the two stops.

Bloedau teaches a hinge for an orthopedic splint comprising:

- a pair of wheels (44, 44A; Figure 3) turning concentrically with pivotal movement of an upper plate and a lower plate (see Figure 5A), each of said wheels having a wheel edge (46, Figures 5B and 5C) engageable by a detent (32, Figure 4A) for locking the wheels relative to said upper plate;
- a stop (49B, Figure 4B; and 49A, Figure 4C) on each of said wheels operative for limiting pivotal movement of said lower plate relative to said upper plate in one direction of movement; and
- a pin (48, Figure 3) on said lower plate being disposed for movement between two stops (see Figure 5A) such that the range of pivotal movement between the plates may be set by the angular spacing between the two stops when said

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detent is engaged for locking said wheels against rotation relative to said upper plate (Column 1, Lines 35-40),

for the purpose of adjusting the position and the amount of pivotal movement between upper and lower plates.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art to include a pin on said lower plate being disposed between the two stops such that the range of pivotal movement between the plates may be set by the angular spacing between the two stops when said detent is engaged for locking said wheels against rotation relative to said upper plate for the purpose of adjusting the position and the amount of pivotal movement between upper and lower plates, as taught by Bloedau.

Admission, in view of Bloedau, fails to disclose a tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand.

Davis et al. teaches a tamper deterrent means (80, Figure 14) arranged for protecting said detent element against displacement out of said engagement by an unaided hand (Column 5, Lines 37-42). Davis et al. does not explicitly state why the tamper deterrent means has this arrangement; however, it appears that the tamper deterrent means protects the detent element against displacement in order to prevent any unwanted adjustment of the hinge.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art, in view of Bloedau, to include a tamper deterrent means arranged for protecting said detent element against displacement out of said engagement by an unaided hand, for the purpose of preventing any unwanted adjustment of the hinge, as taught by Davis et al.

Claims 27 and 28:

Admission, in view of Bloedau, and further in view of Davis et al., discloses tabs (64 and 66, Figure 2) extending radially from said wheels.

Admission, in view of Bloedau, and further in view of Davis et al., fails to disclose tabs having directional markings. However, tabs that have "directional markings" were well-known in the art at the time the invention was made, as demonstrated by Bennett et al., U.S. Patent No. 5,873,847 (see "directional markings" on tabs 38 and 40, Figure 2). This type of "directional markings" will *inherently* assist a therapist in setting the relative angular positions of the wheels during adjustment of the hinge.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the admitted prior art, in view of Bloedau, and further in view of Davis et al., to include tabs having directional markings.

Claims 29-31:

As indicated in the above rejections for Claims 26-28, Admission, in view of Bloedau, U.S. Patent No. 5,938,629, and further in view of Davis et al. discloses every element of Claims 29-31.

Allowable Subject Matter

Claims 1-17 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 1:

The prior art fails to disclose or suggest a hinge for an orthopedic splint, comprising:

- an upper plate and a lower plate connected for pivotal movement;
- a detent supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement;
- a spring normally urging said detent into said engagement; and
- a cover means protecting said detent against displacement out of said engagement by an unaided hand, said cover means having an aperture that is sized and disposed for admitting a tool end operative for displacing said detent out of said engagement against said urging of said spring and thus freeing the plates for said pivotal movement.

Claims 2-17:

These claims are dependent upon Claim 1 and are thus allowable.

Claims 21 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 21 and 32:

The prior art fails to disclose or suggest a hinge for an orthopedic splint, comprising:

- an upper plate and a lower plate connected for pivotal movement;
- a detent supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement;
- a spring normally urging said detent into said engagement; and
- a tamper deterrent means that includes cover means protecting said detent against displacement out of said engagement by an unaided hand, said cover means having an aperture that is sized and disposed for admitting a tool end operative for displacing said detent out of said engagement against said urging of said spring and thus freeing the plates for said pivotal movement.

Claims 22-25 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 22:

The prior art fails to disclose or suggest a hinge for an orthopedic splint, comprising:

- an upper plate and a lower plate connected for pivotal movement;
- a detent supported on said upper plate and displaceable into and out of an engaged condition thereby to lock the two plates against said pivotal movement;
- a spring normally urging said detent into said engagement; and
- a locking element removably engageable with said detent for holding said detent out of said engagement thereby to facilitate adjustment of the plates to a desired angular relationship.

Claims 23-25:

These claims are dependent upon Claim 22 and are thus allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 28 October 2002 have been fully considered but they are not persuasive.

Claim 18:

Applicant argues that the hinges mentioned in the specification of the present invention are not "bi-directional" like the hinge described in Claim 18. See *Applicant's Response – Paper No. 6; Page 2, Lines 6-7.*

In response to applicant's argument, it is noted that the feature upon which applicant relies (i.e., a "bi-directional" hinge) is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, "bi-directional" hinges were well-known in the art at the time the invention was made, as demonstrated in Davis et al. and Johnson et al.

Applicant appears to argue that the tamper deterrent means, recited in Applicant's amendment to Claim 18, distinguishes Applicant's invention from the prior art. See *Applicant's Response – Paper No. 6; Page 2, Lines 11-19.*

Examiner disagrees, as specified in the above rejection for Claim 18.

Applicant argues that the Johnson reference is not designed to fix the joint at a particular angle, but rather a permissible range of angular rotation. See *Applicant's Response* – Paper No. 6; Page 2, second paragraph.

Again, it is noted that the feature upon which applicant relies (i.e., a hinge designed to fix the joint at a particular angle) is not recited in the rejected claim(s). Claim 18 specifies that the “plates may be moved through substantial angular ranges on either side of said zero angle position” (Lines 8-9).

Moreover, Examiner disagrees with Applicant's assertion that the hinge in Johnson et al. is not designed to fix the joint at a particular angle. The hinge disclosed in Johnson et al. can fix the joint at a particular angle by properly adjusting the plates 16 and 18.

Applicant presents the same arguments in support of Claim 26. Examiner's rebuttal for Claim 18 also applies to Claim 26.

Claims 27 and 28:

Applicant argues that the tamper deterrent means recited in the claims distinguishes Applicant's invention from the prior art. See *Applicant's Response* – Paper No. 6; Page 3, fourth full paragraph.

Examiner disagrees, as specified in the above rejections for Claims 27 and 28.

Claims 29-31:

Applicant argues that the "directional markings" recited in the Claim 29 distinguishes Applicant's invention from the prior art. See *Applicant's Response – Paper No. 6; Page 3, fifth full paragraph.*

Examiner disagrees, as specified in the above rejections for Claims 29-31.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Doug Hutton whose telephone number is (703) 305-1701. The examiner can normally be reached on Monday-Friday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached at (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

WDH

December 31, 2002



ANTHONY KNIGHT
SUPERVISORY PATENT EXAMINER
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